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Life in the pits: Crew is key to the success of the car and driver

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One of the key elements of a successful Indy car team is its pit crew, a group of fast-moving professionals who can make or break a race for their driver.

As many as 15 are in the pit during a race, but by IndyCar rules, only six can go over the wall to service the car during the pit stop.

Each member of the pit crew performs a specific job during routine stops, as well as other responsibilities in between stops and during race week.

Behind-the-wall jobs during pit stops, such as passing tires, working the fire extinguisher and feeding hose lines, are performed by the team engineers, managers and even advisors and owners.

If all goes well, top pit crews such as Al Unser Jr.'s Marlboro Team Penske crew, shown in the photo provided by Marlboro Racing, can complete the stop in under 15 seconds.

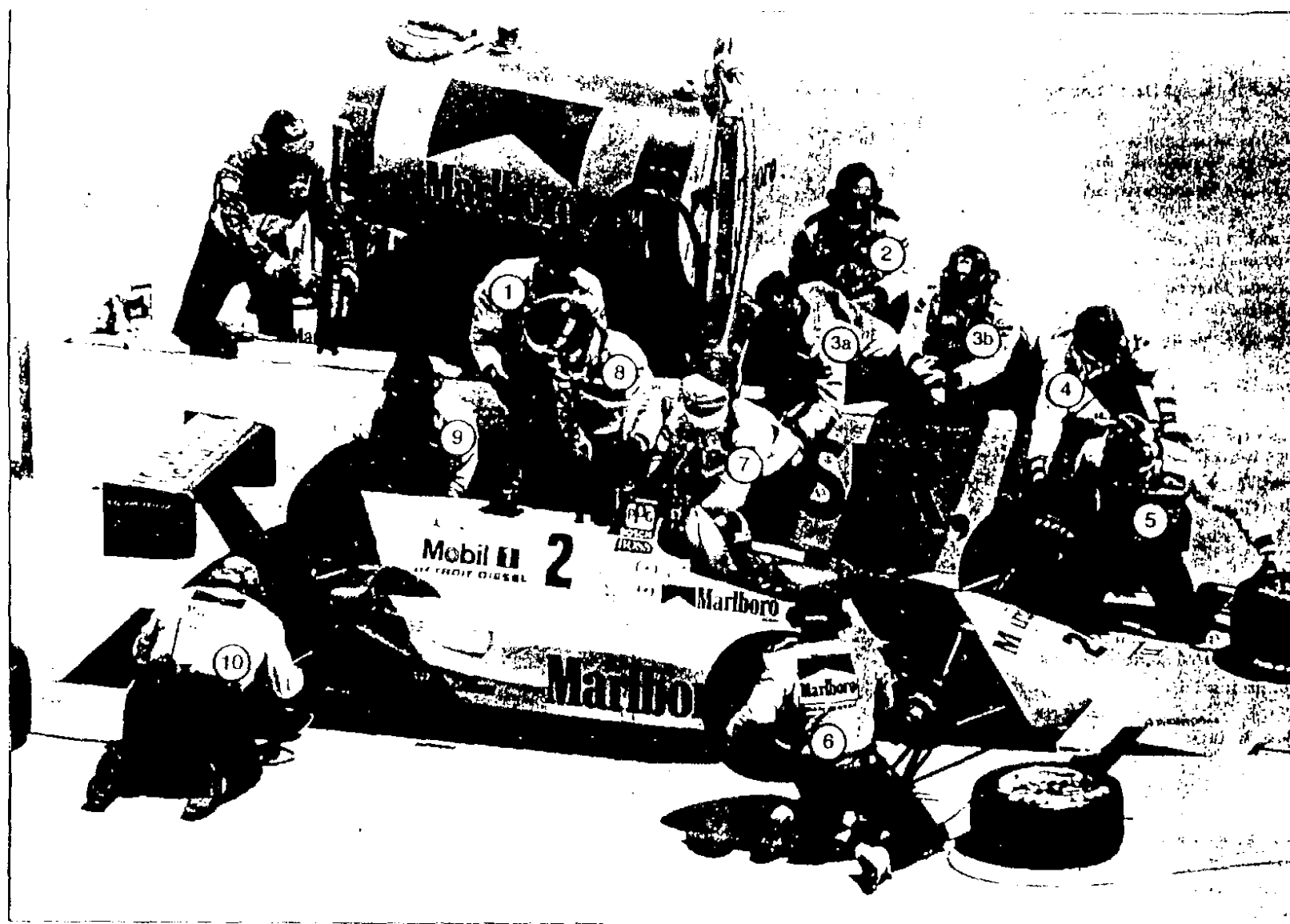
A look at the duties each of the pit crew members performs during a routine stop:

1. STARTER/TIRE PASSER: Primary responsibility is passing the inside rear tire, but also passes the starter over the wall should the car stall in the pit. He also may be responsible for preparing all tires for practice, qualifying and racing. Mounts, fills and balances each tire and keeps track of the miles/laps on each set and the order they are used during the race. Not part of over-the-wall crew.

2. DEAD MAN: Operates the spring-loaded lever on the fuel tank that allows fuel (methanol) to flow through the hose into the car to assure quickest fuel flow. Called "dead man" because if a fuel problem such as fire arises, he can stop the fuel flow by releasing the lever. Not part of over-the-wall crew.

3a. FUEL HOSE: Keeps fuel hose open to assure quickest fuel level flow. Not part of over-the-wall crew.

3b. FIRE EXTINGUISHER: Holds fire extinguisher, which is



A top pit crew can do its job in seconds. Al Unser Jr.'s crew is pictured here. Unser has won Long Beach six times in the last eight years.

sprayed after fuel hose is removed to wash away any spillage. Not part of over-the-wall crew.

4. TIRE PASSER: Brings tires from garage to pits. Helps pass tires over the wall and assists wherever else is needed. Not part of over-the-wall crew.

5. INSIDE FRONT: Changes inside front tire. Usually performed

by one of the car mechanics, the tire changer takes his tire and air gun over the wall on the lap before the pit stop and is already in position and on his knees when the car arrives at full speed. He removes the old tire and fits a new one in 6 to 8 seconds. Since the left front changer does not have to run across the car, he is one of the first to get

his tire changed and will assist with wing adjustments and clear the used tire from the right front.

6. OUTSIDE FRONT: Changes outside front tire. Usually performed by the crew chief, he takes his tire and air gun to his position, and guides the driver into his pit area. After completing his tire change and clearing his air gun

over the wall, he also makes a necessary front wing adjustment.

7. FUEL MAN: He fits the fuel nozzle into the fuel tank opening on the inboard side of the car. The fuel man is one of two crew members required to wear a helmet and a three-layer fire suit.

8. JACK AND VENT MAN: Applies the air jack, which raises

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the car for tire changes. He also inserts the vent hose, which captures any fumes or excess fuel coming from the tank. Due to his proximity to the fuel connection, the rules require him to wear a safety helmet and a three-layer suit.

9. INSIDE REAR: Changes left inside tire. Like front tire changers, this crew member is in position on the car before the pit stop. Once the change is complete, he helps push the car out of the pit. Once the car is out, he clears the used right

10. OUTSIDE REAR: Changes right rear tire. Unlike the other tire changers, must wait for the car to be out of the pit and clear the rear of the car. When the car is in the pits, he stands behind the rear of the car and watches the tire and helps push the car out of the pit.

The members of the Marlboro Team Penske pit crew not pictured include:

LOLLIPOP MAN: Holds the pole and sign (the "lollipop") over the pit wall to show the driver his pit location and stopping point in pit. This duty is usually performed by the team manager or owner whose primary duty is to communicate via radio with the driver, plan pit stops and other race strategy and inform the driver of track and car conditions. Not part of over-the-wall crew.

BOARD MAN: He holds a sign over the outside pit wall onto the track giving driver visual instructions on when to pit, track position and leads and other vital information. This function becomes vital if the team experiences radio problems.

ENGINEER: Responsible for working with the driver to set up the car. Based upon driver input, directs crew chief and mechanics as to what changes need to be made to improve performance and speed.

ELECTRONICS ENGINEER: Responsible for the computer data acquisition, telemetry and communications systems in use during the race.

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